1997 BIDAN DI DESA (BDD)
PROFILE SURVEY

Jeanne McDermott, MotherCare/Washington
Margaret Wirth, MotherCare/Indonesia

This publication was made possible through support provided by JOHN SNOW, INC./MOTHERCARE PROJECT and THE OFFICE OF HEALTH AND NUTRITION, BUREAU FOR GLOBAL PROGRAMS, FIELD SUPPORT AND RESEARCH, U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT, under the terms of Contract No. HRN-C-00-93-00038-00, HRN-C-00-98-00050-00, HRN-Q-00-93-00039-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the U.S. Agency for International Development or John Snow, Inc.

TABLE OF CONTENTS

INTRODUCTION

The Bidan di desa (village-based midwife) Profile Survey was designed in early 1997 with the general intent of getting a comprehensive "portrait" of all the Bidan di desa working in the three MotherCare (MC) districts of South Kalimantan (Banjar, Barito Kuala and Hulu Sungai Selatan districts). Information was collected on socio-demographic characteristics, education and employment histories, and current profile of services they provide. The survey instrument in English can be found in Appendix A.

The survey was conducted during interpersonal communication and counseling (IPCC) training in April-May 1997. All of the Bdd in the three MotherCare districts were intended to attend this training, so the expectations was that most of the Bdd could be covered at this time. MotherCare staff from South Kalimantan administered the survey and were responsible for quality control on site. Questionnaires were returned to individual Bidan di desa (Bdd) who had left pieces incomplete or whose data was inconsistent. A total of nine Bidan di desa were unable to attend the IPCC training and the MC staff administered the survey separately to these nine women. Thus, the vast majority of the Bidan di desa completed the questionnaire in staggered groups over a one month interval while nine Bidan di desa completed the questionnaire some two months later than the rest (July 1997). One Bdd could not be located, and is assumed to be inactive.

Information (all self-reported) from this profile should provide:

- list of all Bdd in MC districts as of May 1997
- socio-demographic profile
- place of work (district and village)
- employee type (government or contract)
- length of employment
- expected employment in the district
- pre-service and in-service training
- volume of clients and place of service Bdd currently provides (antenatal care, intrapartum care, postnatal care)
- list of any pregnancy, intrapartum, postpartum or neonatal complications they have seen/managed

The results from this profile will be used to:

- provide a list of Bdd in each of the districts
- provide a profile of the characteristics of the Bdd (mean age; proportion married;
- proportion childless; fluency in local language; educational preparation for midwifery;
- distribution and mean number of deliveries attended in last 3 months; distribution and mean number of postpartum visits, types of complications they have encountered)
- determine coverage of MC Life Saving Skills (LSS) training of Bdd
- estimate the amount and coverage of services provided by Bdd
-

If the profile were repeated in the future, it would be possible to document turnover among Bdd and to measure change in Bdd district coverage and services over time.

RESULTS

Information was collected from 538 Bdd; 27% came from Hulu Sungai Selatan (HSS) District, 35% from Barito Kuala (BK) District and 38% from Banjar (B) District (Table 1).

Socio-demographic characteristics

Most of the Bdd were less than 26 years of age (73%), were currently married (57%) or widowed (<1%), and did not have children (60%) at the time of the survey. Mean age of the Bdd was 24 years. Almost all were from the island of Kalimantan (92%) and spoke the local language fluently (79%) or only occasionally had language difficulties (17%). Most live and work in the village for which they are responsible (87%). However, variations occurred when these characteristics were examined by the district in which the Bdd resided. Bdd from Banjar were slightly older (mean age was 26 years), more likely to be married or widowed (67%), to have at least one child (54%), and to live outside of the village of primary responsibility (24%) than Bdd from the other two districts (P values < 0.01).

Education and Employment History

The majority of Bdd has junior high school, nursing and midwifery education (73%), and has been functioning as midwives for less than 5 years (86%) (see Table 2). Over 60% of the Bdd are employed on three-year contracts with the Indonesian government, and most (59%) were in the first year of this contract at the time of the survey.

The education and employment histories differed when the employment statuses (government employees or contract employees) were compared. The government Bdd was more likely to have attended nursing school and worked as nurses before they attended midwifery school than the contract Bdd. Most (92%) of the government Bdd attended three years of nursing school compared with 65% of the contract Bdd. Of the 201 government Bdd who attended nursing school, 60% worked as nurses before entering midwifery school. Only 5% of the contract Bdd with nursing education worked as nurses before entering midwifery school. The Bdd who are government employees have been employed as Bdd longer than those who were contract employees with mean years of 4.1 and 1.6 respectively. Over 36% of the government Bdd have been employed as Bdd for more than five years, while only one of the contract Bdd have been employed more than 3 years.

Variations occurred when the employment histories were examined by the district in which the Bdd resided. Bdd from Banjar were more likely to have more than two years of experience as a Bdd and to be government employees than BDD from the other two districts (P-values < 0.001).

Health Services Provided by Bdd

The activities in the three months prior to the survey as reported by the Bdd are shown in Table 3. Although the ultimate goal of the Bdd program in Indonesia is for the Bdd to replace the traditional birth

attendant (TBA, locally known as dukan) as primary birth attendant, the strategy to achieve this has been to promote teamwork between the Bdd and the TBA. As a result, the number of deliveries attended by the Bdd alone, the number the Bdd attended with a TBA, and the combined number will be reported to present a current picture of the activities of the Bdd in this regard.

Although 15% of the Bdd were responsible for more than one village, these Bdd were concentrated in Banjar and HSS Districts. Bdd reported attending a mean of 4.6 deliveries and a median of 3 deliveries in the three months prior to the survey. Bdd reported delivering more women alone (mean=3.2, median=2) than with a TBA (mean=1.4, median=1). Eleven percent of the Bdd reported attending no deliveries, either alone or with a TBA in this period. Only 8% of the Bdd reported attending more than 10 deliveries in the three months prior to the survey. Visits to newly delivered mother and infants in the first week after delivery (PP visit) were more numerous among the Bdd. Only 4% reported no PP visits; mean and median number of postpartum visits were 5.6 and 4 respectively. These relationships did not differ when examined by district.

The Bdd from Banjar appeared to be the most active, reporting attending the most deliveries, either alone (mean=4.0, median=3) or with a TBA (mean=1.7, median=1), and making the most first week postpartum visits (mean=6.5, median=5). The Bdd from HSS reported the fewest number of deliveries (mean=3.4, median=2) and postpartum visits (mean=4.4, median=3), These estimates are assumed to reflect the general level of delivery and postpartum visit activity at the time of the survey.

Of the 518 Bdd who reported making any first week postpartum visits in the three months prior to the survey, 253 (49%) included visits to women for whom they did not attend the birth. This percentage did not differ by district with 45%, 51% and 51% for Banjar, BK and HSS respectively.

Coverage

The number of deliveries that occurred in the villages for which each Bdd is responsible is needed to determine the individual Bdd coverage of services (percentage of eligible deliveries and postpartum mothers and babies in her village(s) of responsibility for which the Bdd attended the delivery and made a PP visit). This information is not available.

Coverage of services by Bdd can be estimated on a district level. The expected number of deliveries for each district can be calculated based on population size of the districts (488,872 for Banjar, 289,692 for BK, and 192,562 for HSS) and the national crude birth rate (24.5 births per 1000 population). Expected number of deliveries can be found in Table 4. The number of deliveries and PP visits the Bdd reported that she attended in the three months prior to the survey can be used to estimate the number she would attend in a year (multiple by 4 to get number for 12 months), assuming that the number reported in three month period reflect three month activities at any time of year. The coverage of deliveries and postpartum visits by Bdd can then be estimated.

Impact of MC LSS Training

One of the goals of the MotherCare Project in Indonesia is to accelerate the utilization of Bdd for deliveries and postpartum care. The training component of the project is expected to significantly contribute to this goal. Thirty-eight Bdd, all from HSS District, received MC LSS training before the Bdd profile survey was conducted. These 9-day training sessions began at the end of November 1996.

No differences are detected in number of deliveries or PP visits when the activity levels for the MC "trained" Bdd are compared to the "untrained" Bdd (app p values >0.10), although the number of deliveries with TBA and PP visits among the "trained" appear to be increasing (Table5).

Complications Identified by Bdd

The Bdd identified 166 women with complications. Twenty-six (16%) of the women had two complications listed and four (2%) women had three listed, resulting in 196 complications reported. The types of complications are included in Table 6. The largest category of complication was hemorrhage (93 or 47%), followed by dystocia (68 or 35%) and hypertensive diseases of pregnancy (17 or 9%). Fetal or neonatal problems accounted for less than 5%. The category of "Other" includes some complications which are poorly defined (e.g. weakness). Bdd identified complications among 7% of the women for whom they attended the delivery, either alone or with TBA. This may be underestimated because the question in the survey referred to deliveries the Bdd attended. Complications identified in PP visits may not have been included.

DISCUSSION

This cross-sectional survey provides a "snapshot" of the profile and activities of the Bdd in the three MotherCare districts in first half of 1997. It provides information so that Bdd can be compared among the three districts in terms of their "profile" (socio-demographic, educational, and employment history) and their activities.

The survey revealed that the profile of Bdd differs among the districts. The Bdd from Banjar are older, more likely to be married and to have children, be more experienced, and be government employees than the Bdd from the other two districts. Banjar Bdd also reported providing more services than the Bdd from the other two districts. The higher level of activities among the Banjar Bdd probably reflects the larger population base in general and one than is more urban than the other two districts. When coverage by Bdd is estimated on a district level, Banjar Bdd's appear to be providing services to a slightly lower percentage of eligible women than the Bdd in the other two districts. However, this may only reflect the possibility of more options for professional care available to the women in more urban Banjar.

Evaluation of the success of the Bdd is best measured by the coverage of eligible women by individual Bdd. This is difficult to determine and impossible with the available information. The Bdd can only provide services to women who live in the villages of her responsibility. The higher mean number of PP visits than mean number of deliveries attended by the Bdd, either alone or with a TBA, provides

evidence that some Bdd are missing women at time of delivery. Coverage by individual Bdd will continue to be difficult to estimate accurately.

However, district level estimates of coverage indicate that Bdd are attending the births of approximately 40% of the women who are expected to deliver in the districts. This is a five-fold increase from the level reported in community based survey in the three MC districts conducted in 1996. The 1996 survey found that women with a birth in the last three years reported that BDD was present at the delivery for 8% of them. Women with deliveries at home in urban areas reported attendance by the Bdd at twice the frequency of rural women (15% and 8% respectively). A less dramatic increase is seen in the coverage for PP visits. Thirty-six percent of the respondents in the 1996 survey reported a postpartum visit by a Bdd. The estimated coverage for PP visit in the profile survey was 51%. The increased coverage by Bdd in the profile survey can be explained by the availability of Bdd in the three MotherCare districts. Almost 50% of the Bdd reported in the Profile Survey that they had been Bdd for two or less years. Many of the women with births in the last three years (1993-1996) included in the 1996 community- based survey probably did not have the opportunity to use a Bdd for delivery or for PP visit.

The ultimate goal of the Bdd program is for the Bdd to replace the TBA as primary birth attendant. This survey provides baseline information to monitor the progress toward this goal. A repeat survey in 2-3 years would provide information on changes in the number of deliveries attended by Bdd, the proportion of deliveries the Bdd attended with a TBA, the number of PP visits, and the proportion of PP visits to women for whose birth the Bdd did not attend.

One of the goals of the MotherCare Project in Indonesia is to accelerate the utilization of Bdd for deliveries and postpartum care. The training component of the project was expected to significantly contribute to this goal. Although 38 of the Bdd had received training in HSS, the training began only 5 months before the survey. This survey was too recent to expect to detect a difference in the volume of services provided when trained and untrained Bdd are compared. A repeat survey could provide information to evaluate the impact of the MotherCare training on the utilization of Bdd. Unfortunately, economic conditions within the country may overcome the impact of the MotherCare project.

BIDAN DI DESA (BDD) PROFILE SURVEY, APRIL-MAY 1997

TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS

	Total (N=538) %	HSS (n=145) %	B-K (n=189) %	B (n=204) %
Age:				
≤ 20 yrs	26	32	33	15
21-25 yrs	47	47	47	47
26-30 yrs	20	19	14	26
>=31 yrs	7	2	6	12
Mean age in years	24	23	23	26
Married or widowed	58	54	50	67
No children	60	72	66	46
From Kalimantan	92	93	93	91
Fluent in local language	79	77	78	82
Only occasional language difficulties	17	22	14	17
Lives in village of primary responsibility	87	93	94	76

TABLE 2: EDUCATION AND EMPLOYMENT HISTORY

	Total (N=538) %	HSS (n=145) %	B-K (n=189) %	B (n=204) %
Education				
junior hi +3 year nsg + 1 year mw	73	65	76	76
junior hi + 3 year mw	16	24	16	11
other combinations	11	11	8	12
Length of time as Bdd				
<= 2 years	49	64	57	31
3-4 years	37	21	36	49
>= 5yrs	14	15	7	20
Employment status				
Government	39	30	28	55
Contract	61	70	72	45
Among Contract employees:	N=330	n=101	n=137	n=92
in 1st year of contract (1996)*	59	67	62	43
in 2nd year of contract (1995)	16	18	14	17
in 3rd year of contract (1994)	26	16	24	39
Among government employees:	N=208	n=44	n=52	n=112
employed <5 years ('93-'96)	27	36	17	28
employed 5 or more years ('75-'92)	73	62	83	72

* Year given in parenthesis is the year that the contract began

TABLE 3: HEALTH SERVICES IN 3 MONTHS PRIOR TO SURVEY

	TOTAL (N=538) %	HSS (n=145) %	B-K (n=189) %	Banjar (n=204) %
Covers more than 1 village	15	24	2	21
Number of deliveries by Bdd alone				
0	20	30	13	20
1-2	34	38	42	23
3-5	29	20	33	33
6-10	13	10	11	15
more than 10	4	2	2	7
Mean	3.2	2.6	3.0	4.0
Median	2	1	2	3
Number of deliveries with TBA				
0	40	53	42	28
1-2	42	34	43	47
3-5	14	9	11	21
6-10	3	2	3	3
more than 10	<1	<1	0	<1
Mean	1.4	1.0	1.3	1.7
Median	1	0	1	1
Number of deliveries Bdd alone/with TBA				
0	11	20	5	10
1-2	25	32	31	17
3-5	35	30	39	35
6-10	20	12	20	24
more than 10	8	6	5	14
Mean	4.6	3.4	4.2	5.8
Median	3	2	3	4
# of 1st week PP visits by Bdd				
0	4	6	2	4
1-2	20	29	16	17
3-5	40	41	42	38
6-10	25	17	33	22
more than 10	11	8	7	20
Mean	5.6	4.4	5.5	6.5
Median	4	3	5	5

TABLE 4: ESTIMATED COVERAGE OF SERVICES BY BDD

	TOTAL	HSS	BK	B
Expected deliveries	23,792	4,718	7,097	11,977
Deliveries attended by Bdd for 3 months prior to survey	2,463	493	797	1,173
Estimated deliveries attended by Bdd for 12 months	9,852	1,972	3,188	4,692
Estimated coverage of deliveries by Bdd (%)	41	42	45	39
Postpartum visits by Bdd for 3 months prior to survey	3,004	638	1,035	1,331
Estimated postpartum visits by Bdd for 12 months	12,016	2,552	4,140	5,324
Estimated coverage of postpartum visits by Bdd (%)	51	54	58	44

TABLE 5: HEALTH SERVICES IN 3 MONTHS PRIOR TO SURVEY FOR BDD IN HSS DISTRICT

	Trained* (n=38) %	Untrained (n=107) %
Number of deliveries by Bdd alone		
0	34	28
1-2	37	38
3-5	16	21
6-10	11	9
more than 10	3	3
Mean	2.1	2.4
Median	1	1
Number of deliveries with TBA		
0	47	55
1-2	29	36
3-5	16	7
6-10	8	0
more than 10	0	1
Mean	1.5	0.9
Median	1	0
Number of deliveries alone or with TBA		
0	18	21
1-2	24	35
3-5	37	28
6-10	16	11
more than 10	5	6
Mean	3.7	3.3
Median	3	2
Number of 1st week PP visits		
0	5	6
1-2	21	32
3-5	39	41
6-10	26	13
more than 10	8	8
Mean	5.0	4.2
Median	4	3

*Trained - has received MotherCare Life Saving Skills Training

TABLE 6: COMPLICATIONS IDENTIFIED BY BDD IN 3 MONTHS PRIOR TO SURVEY

HEMORRHAGE	
Retained placenta	51
Hemorrhage (time unspecified)	21
Postpartum hemorrhage	17
Uterine atony	1
Prolapsed uterus	1
Placenta previa	1
Antepartum hemorrhage	1
DYSTOCIA	
Prolonged second stage	20
Cephlo-pelvic disproportion	12
Breech presentation	12
Prolonged labor (stage unspecified)	12
Dystocia	3
Obstructed labor	3
Big baby	2
Twins	2
Malpresentation	1
Shoulder dystocia	1
HYPERTENSIVE DISEASES OF PREGNANCY	
Pre-eclampsia	9
Hypertension	6
Eclampsia	2
NEONATAL PROBLEMS	
Intrauterine fetal distress	4
Cord around the neck	2
Asphyxia	1
Stillbirth	1
Deformity	1
OTHER	
Weakness	2
Premature	2
Asthma	1
Hydramnios	1
Hypotension	1
Abnormal blood pressure	1
Fever	1

APPENDIX A - SURVEY INTRUMENT